

- A) Give the parent function.
 B) Draw the general shape of the parent function.
 C) Describe and write the transformations.
 D) Describe how to graph.
 E) Graph.

1. $f(x) = 2|x - 2| + 3$

parent function _____

Up _____ Down _____

Left _____ Right _____

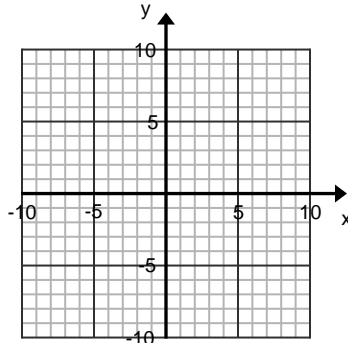
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



2. $f(x) = \left| \frac{1}{4}(x + 3) \right| - 4$

parent function _____

Up _____ Down _____

Left _____ Right _____

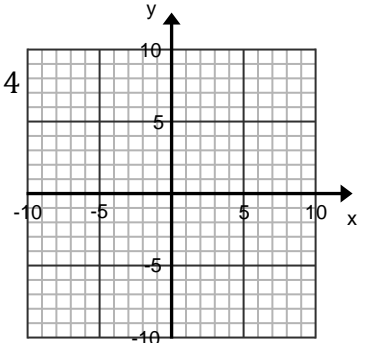
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



3. $f(x) = \frac{-2}{3}(x - 2)^3 - 3$

parent function _____

Up _____ Down _____

Left _____ Right _____

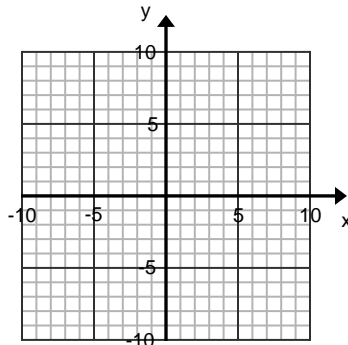
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



4. $f(x) = -2(x - 2)^2 + 1$

parent function _____

Up _____ Down _____

Left _____ Right _____

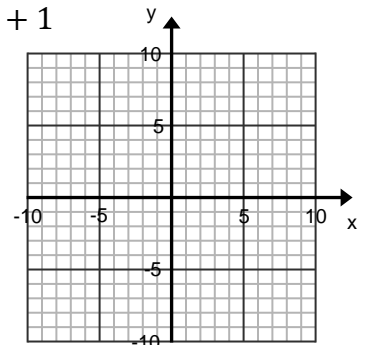
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



5. $f(x) = 4(-(x - 3))^2 - 4$

parent function _____

Up _____ Down _____

Left _____ Right _____

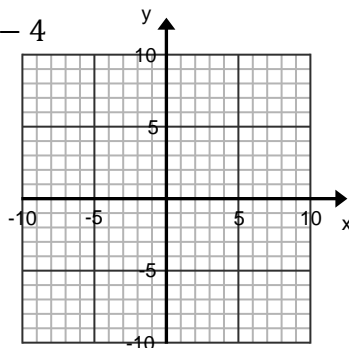
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



6. $f(x) = 3(x + 2)^3 + 1$

parent function _____

Up _____ Down _____

Left _____ Right _____

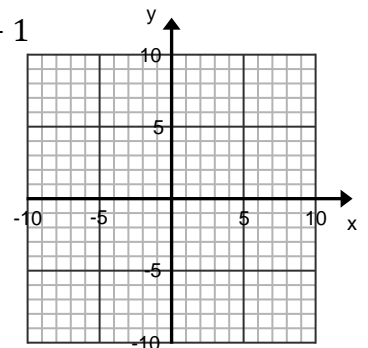
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



7. $f(x) = -2\sqrt{x+1} + 3$

parent function _____

Up _____ Down _____

Left _____ Right _____

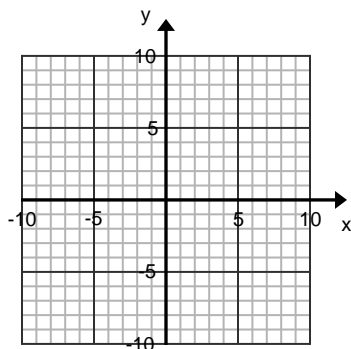
Reflection _____

Vertical shrink _____

Vertical stretch _____

Horizontal shrink _____

Horizontal stretch _____



8. $f(x) = \frac{1}{4}\sqrt{2x} + 4$

parent function _____

Up _____ Down _____

Left _____ Right _____

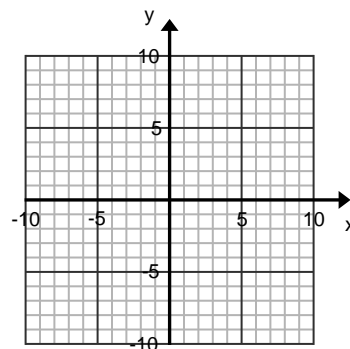
Reflection _____

Vertical shrink _____

Vertical stretch _____

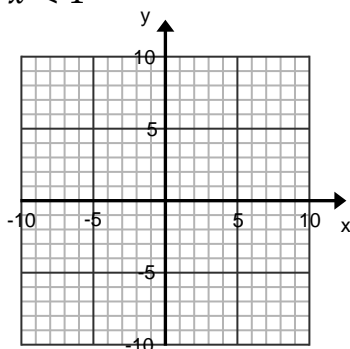
Horizontal shrink _____

Horizontal stretch _____

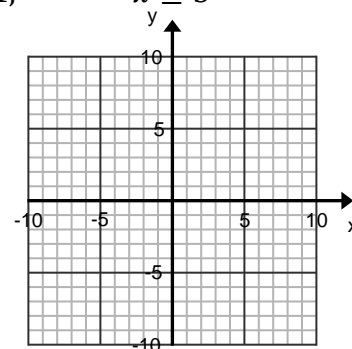


Graph the piecewise function.

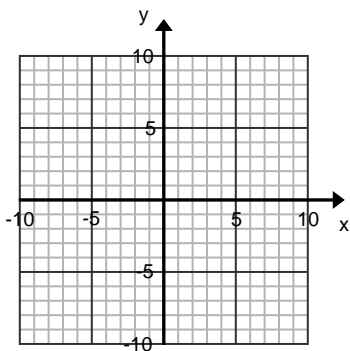
9. $f(x) = \begin{cases} 3x - 2, & x \geq 1 \\ \sqrt{x+3} + 1, & x < 1 \end{cases}$



10. $f(x) = \begin{cases} -2(x-2)^2 + 1, & x < 3 \\ -1, & x \geq 3 \end{cases}$



11. $f(x) = \begin{cases} -2(x-3)^3 + 1, & x \leq 2 \\ -2x - 3, & x > 2 \end{cases}$



12. $f(x) = \begin{cases} -|x+2| + 1, & x < -1 \\ -2, & -1 \leq x < 3 \\ x, & x \geq 3 \end{cases}$

